

Course stress and career satisfaction among medical students of Delta State University, Abraka, Nigeria

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Abstract

It is usually observed that medical students experience tremendous amount of stress in the course of their training. This can affect them mentally and physically. The objective of the study was to determine the prevalence of stress among medical students, the source of such stress and respondents coping strategy, as well as their level of satisfaction with medicine as a career. A descriptive cross-sectional study was conducted among 341 medical students of Delta State University, Abraka, Nigeria. Self-administered questionnaire was used to obtain information on the prevalence of stress, source of stress and coping strategy adopted by respondents. Data was analysed using SPSS version 13.0 software. The response rate was 94.7%. Two hundred and twenty-five (66.0%) were satisfied with their course and 257(75.4%) of them felt medicine was stressful. The 400 level students had the highest proportion of students (77.1%) that felt stressful. More respondents (77.5%) dissatisfied with their course felt more stressful than respondents (74.2%) satisfied with medicine ($p=0.79$). Academic factor(88.3%) was the most common source of stress. The level of stress was found to be high and mainly due to academics. There is need for the College of Health Sciences to find solution to this problem and introduce stress management programmes for the students.

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Key words: Stress, course satisfaction, medical students, coping style.

Introduction:

Stress has been defined as a stimulus, a response or the result of an interaction between the two, with the interaction described in terms of some imbalance between the person and the environment.¹ However, some stress is desirable to prevent under-stimulation and even boredom, but the persistence of stress-related symptoms may result in mental and/or physical disorders, substance abuse, and diminished efficiency at work.^{2,3}

Stress in individuals is defined as any interference that disturbs a person's healthy mental and physical wellbeing. It occurs when the body is required to perform beyond its normal range of capabilities.^{1,3,4} The results of stress are harmful to individuals, families, society, and organizations, which suffer from "organizational stress".¹ The concept of stress has been widely discussed in relation to medical students and reports of high levels of perceived stress among medical students are common.^{2,4,5} A study on the stress and psychological health of medical student in Benin, Nigeria, showed that 86.0% of the students felt stressful, while 29.1% had psychological disorder.² Another study was conducted to assess the experiences of mistreatment and harassment among final-year clinical students in a Nigerian medical school.⁶ The result showed that the commonest forms of mistreatment

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experienced by the students were being shouted at (92.6%), public humiliation (87.4%) and disparaging remarks about their academic performance (71.4%). It was concluded that, most medical students experienced verbal forms of mistreatment which is a psychological stress, and therefore advocated for appropriate strategies for its prevention.⁶ A research was conducted in University of Lagos, Nigeria, to identify sources of stress among 137 dental students.⁷ The result revealed that the year 5 students indicated the highest prevalence of stress among the study population. It also noted that the most important stressors were due to the unavailability of materials for clinical training and study.⁷ A study carried out in University of Ibadan, Nigeria, to investigate the stressors and psychological morbidity in students of medicine, dentistry, physiotherapy and nursing.⁸ It was observed that medical and dental students were more likely to cite as stressors, overcrowding, strikes, excessive school work and lack of holidays, while physiotherapy and nursing students focused on noisy environment, security and transportation.

Learning and memory can be affected by stress. Although an optimal level of stress can enhance learning ability, too much stress can cause physical and mental problems. Students are subjected to different kinds of stressors, such as the pressure of academics with an obligation to succeed, an uncertain future and difficulties of integrating into the system.^{9,10} The students also face social, emotional and physical and family problems which may affect their learning ability and academic achievement.^{9,11} In recent years, there is a growing appreciation of the stress involved in medical training. Studies have classified the sources of stress into three main areas, namely, academic pressures, social issues and financial problems.^{10,11}

Coping is defined as the person's constantly changing cognitive and behavioural efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the person's resources.^{12,13} Research shows that students with an active coping style (those who can tackle problems in a positive and straight forward manner) have lower levels of

psychological distress.^{11,13,14} In view of the potential long term benefits of managing stress in a more effective way, it may be important for students to develop such skills early in their career.^{11,13}

This study was aimed at determining the prevalence of stress among respondents, the sources of stress, and coping mechanisms adopted for stress.

Methodology:

This descriptive cross sectional study was carried out among medical students of Delta State University, Abraka, between September and December 2010. Delta State University was established in 1992 and has 3 campuses located in the three senatorial districts of the state. The College of Health Sciences is located in the Abraka campus. The first set of medical students was admitted in 2001/2002 session. The average number of students' intake per year is 50. The duration of the medical degree programme at the college is 5 years.

The study population comprised the 200, 300, 400 and 600 levels medical students. Due to accreditation constraints, at the time of the study there were 2 sets each of 300 level and 400 level which were merged to give a single class of 300 level and 400 level respectively. A total population study was carried out. The initial sample size of 185 was obtained using the formula¹⁴ for simple proportion for population greater than 10,000, $n = Z^2 pq/d^2$ where n is the minimum sample size, p is the proportion (86.0%) of respondents that felt stressed in the study done by Ofili et al², Z is the standard normal deviate of 1.96 which corresponds to 95% confidence interval used for this study, and d is the error margin (0.05). However the formula for population less than 10,000 was used since the population of medical students was about 500. The new minimum sample size was 135. Some 500 level medical students were trained and assisted in data collection, and so were not part of the study population. The study instrument used to collect data was self-administered semi structured questionnaire. This questionnaire sought respondent's information on socio-demographic profile, course stress, sources of stress and course satisfaction. Data was

collected from the respondents in the class after their lecture and when the purpose and advantage of the study has been explained to them and their verbal consent obtained. Ethical clearance for this study was obtained from Health Research Ethics Committee of Delta State University Teaching Hospital,

Oghara. Data analysis was carried out with the aid of SPSS version 13.0 software. The Chi-square test was used to compare associations between categorical variables. Statistical significance was established at $p < 0.05$.

RESULTS:

Table 1: Socio-demographic characteristics of respondents (N=341).

VARIABLE	FREQUENCY	%
Age group (Years)		
21 – 25	34	10.0
26 – 30	240	70.4
31 – 35	61	17.9
	6	1.8
Sex		
Male	215	63.0
Female	126	37.0
Level of study		
200L	43	12.6
300L	115	33.7
400L	153	44.9
600L	30	8.8
Marital status		
Married	4	1.2
Single	337	98.8
Religion		
Christianity	331	97.1
Islam	4	1.2
African Tradition	6	1.8
Tribe		
Urhobo	128	37.6
Igbo	101	29.6
Isoko	47	13.8
Itsekiri	20	5.8
Ijaw	15	4.4
Edo	14	4.2
Others	12	3.5
Not indicated	4	1.2

Table 2: Willingness to study medicine again and level of stress

Willingness to study medicine again	STRESS	LEVEL	OF RESPONDENTS
	Stressed	Not stressed	Total
Yes	159(61.9)	63(75.0)	222(65.1)
No	89(34.6)	17(20.2)	106(31.1)
Undecided	9(3.5)	4(4.8)	13(3.8)
Total	257(100.0)	84(100.0)	341(100.0)

Table 3: Comparison of respondent's level of satisfaction by age, sex and clinical level.

VARIABLE	SATISFACTI	STATUS	OF	RESPONDEN	X ²	P-value
	ON		Total	TS		
	Satisfied	Dissatisfied/Undecided				
Age group(years)						
16-20	24 (70.6)	10 (29.4)	34(100.0)		3.55	0.16
21-25	151(62.9)	89 (37.1)	240(100.0)			
26-35	50 (74.6)	17 (25.4)	67(100.0)			
Sex						
Male	138 (64.2)	77 (35.8)	215(100.0)		0.84	0.36
Female	87 (69.1)	39 (30.9)	126(100.0)			
Clinical level						
Preclinical	111(70.3)	47 (29.7)	158(100.0)		2.39	0.12
Clinical	114 (62.3)	69 (37.7)	183(100.0)			

Table 4: Proportion of respondents in each class that felt stressed:

Level of stress	Class	Level	Of Medical	Students (%)	Total
	200L	300L	400L	600L	
Stressed	30 (69.8)	86 (74.7)	118 (77.1)	23 (76.6)	257(75.4)
Not stressed	13 (30.2)	29 (25.3)	35 (22.8)	7 (23.4)	84 (24.6)
Total	43 (100.0)	115(100.0)	153 (100.0)	30 (100.0)	341 (100.0)

X²=1.03; df=3; p=0.79**Table 5:** Stress experienced by respondents (n=257)

Stress experienced	Frequency	%
Academic	227	88.3
Finance	95	36.9
Social	42	16.3
Congestion	40	15.6
Time constraint	30	11.7
Health	10	3.8
Others	14	5.4

Table 6: Stress coping strategy adopted by respondents (n=324)

Strategy	Frequency	%
Music	224	69.1
Hanging out with friends	195	60.2
Sports	114	35.1
Alcohol	50	15.4
Tobacco	13	4.0
Drugs	3	0.9

Results:

A total of 341 questionnaires were retrieved out of a total of 360 that were distributed, giving a response rate of 94.7%. Table 1 shows the sociodemographic characteristics of respondents. The mean age of the respondents was 23.57 ± 2.89 years. Most of the respondents were single (337 or 98.8%), Christians (331 or 97.1%) and of Urhobo (128 or 37.6%) ethnic group. Table 2 shows the stress level of respondents and their willingness to study medicine given another chance. Two hundred and fifty-seven (75.4%) perceived medicine as being stressful, while 84 (24.6%) felt medicine was not stressful. Among the 257 respondents that felt stressed, 159 (61.9%) were willing to study medicine again, while 89 (34.6%) were unwilling to study medicine and 9 (3.5%) were undecided about studying medicine again. Among the students that did not feel stressed, 63 (75.0%) were willing to study medicine again, while 17 (20.2%) and 4 (4.8%) were not willing and undecided to study medicine again respectively. Table 3 showed that 225 (66.0%) respondents had course satisfaction, while 76 (22.3%) and 40 (11.7%) were undecided and not satisfied with medicine respectively. Table 3 shows the distribution of respondent's level of satisfaction by some selected variables such as age, sex and clinical level. A greater proportion of the respondents (74.6%) in the age group 26-35 years were satisfied with medicine as their chosen course than other age groups. More females (69.1%) than males (64.2%) were satisfied with their chosen career. In terms of clinical level, more respondents in the preclinical level (70.3%) expressed satisfaction with medicine than those in the clinical (62.3%). However, all these relationships were not statistically significant ($p > 0.05$). Table 4 summarizes the

relative proportion of respondents in each class that felt stressed. The class with the highest percent of respondents that said they felt stressed was the 400 level (77.1%), followed by the 600 level (76.6%), while the least percent was from the 200 level (69.8%). Table 5 depicts the common sources of stress as mentioned by respondents. The top 3 sources were academics 227 (88.3%), finance 95 (36.9%) and social 42 (16.3%). Academic stress included: lecturers not adhering to time table, rushing of many lectures close to the examination period and bulky work load. Financial stress was mainly expressed as expensive books and feeding needs. Social stress included, no time to socialize and make friends, no recreational activities in the hostel and living a secluded life, just to mention few. The coping strategies adopted by respondents included music 224 (69.1%), hanging out with friends 195 (60.2%), sports 114 (35.1%) and the use of alcohol 50 (15.4%). (Table 6)

Discussion:

The mean age of the population (23.57 ± 2.89 years) is slightly lower than that found in two other studies carried out in the Colleges of Medical Sciences Lagos State University¹⁵ (24.3 ± 3.98 years) and University of Benin² (24.5 ± 3.35 years). The respondents were mainly Urhobos since it is a State University whose major tribe is Urhobo.

Respondents who were satisfied with the medical programme made up majority of the population (66.0%). This result is similar to the study carried out in Benin² where majority (63.4%) expressed satisfaction with medicine. Also, a similar study conducted in Galway, Ireland, reported a high prevalence of course satisfaction.⁹ More females than males were satisfied with medicine as a course, though this was not statistically

significant. This finding is similar to the research in Benin which revealed that a greater proportion of females than males were satisfied with medicine as a career.² However in another study carried out in Seth GS medical school in Mumbai, stress was not found to differ significantly on the basis of sex.³ Most of the medical students (75.4%) perceived medicine to be a stressful course. More students (77.5%) who were dissatisfied with the course found it stressful than those who were satisfied with the course (74.2%). Also, more respondents who did not feel stressed (75.0%) were willing to study medicine again if given another chance, compared to those who said they felt stressful (61.9%). These findings may have a negative effect on their academic performance.

The study revealed that the prevalence of stress increased steadily from 200 level, through 300 level to 400 level. This may be due to increasing academic work load as the years of study progressed. However the stress prevalence in 600 level was less than in 400 level. This may be because in final year (600 level) the students are more involved in tutorial which involves some revisions of curriculum already taught. The highest prevalence of stress noted in 400 level may be associated with impact of transition from preclinical to clinical period due to the new phases of study. This suggests that medical students' stress levels are significantly influenced by the year of study. This is in keeping with other studies.^{2,10} One important finding in this study is that more attention be given to medical students during such transitional periods (from 300 level to 400 level). The most stressful respondents in this study were the 400 level class (77.1%), followed by the 600 level class (76.6%). The least stressful were the 200 level class followed by the 300 level class (74.7%). This finding is similar to the Benin study² where it was observed that the most stressful class was 400L (94.1%), while the least stressful class was 200L (72.9%). This may be because the students were not yet involved in professional examinations in the second year (200L) of

study. Compared with other careers, medicine is generally known to be stressful course especially as it deals with human lives where there could be enormous pressure to make the right decision quickly.^{1,3} The commonest source of stress were related to academic matters such as 'always reading', 'negative marking', 'limited hours to study', 'long hour of lecture schedule' and 'bulky materials to study', to mention a few. As academics was the most important stressor, the College of Health Sciences can play very important role in the prevention of this stress.

It is worthy of note that the female medical students were more satisfied than the males. Research has shown that there are certain factors that are unique to or that differentially affect female physician may influence their career satisfaction and stress.^{5,11,12} Social scientists have offered a number of possible explanations of the high satisfaction rates in professional women despite multiple stressors.^{12,13} They suggest that women have lower job expectations than men, are socialized not to express discontent, and value different characteristics in a career than do men.^{11,12}

Conclusion:

Majority of the respondents perceived medicine to be stressful. Most respondents were satisfied with medicine as a career, of which the females expressed more satisfaction than their male counterparts. Most of their stress arose from academic issues and the most used coping style was to listen to music and hang out with friends. The management of College of Medical Sciences should include stress management skill in the students training programme since stress is an inevitable aspect of their training especially in relation to their academic activity.

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